

FLYER TO THE SHIPPING INDUSTRY

Fatality on the diving support vessel *Wellservicer*



A crew member suffered fatal injuries while carrying out modification work on the diving bell recovery system of the diving support vessel *Wellservicer*.

The modifications were part of an upgrade to enable recovery of the bell in the event of the main bell winch system failure. This involved the installation of a new winch arrangement for the bell's cursor¹.

The new winch had been operational for several days, but had not been fully commissioned. Before the accident, the new winch was used to raise the 4 tonne cursor to allow riggers to work on top of the bell. The winch system was designed such that the brake was automatically applied when the winch control was placed in the neutral position and when hydraulic power was removed.

Once the cursor was in position the brake of the new winch was applied to lock it in position. Several riggers then worked on top of the bell for a period of time.

Part of the modification required the removal of buoyancy blocks from the top of the diving bell. A rigger climbed on top of the bell to do this, but the blocks were very cumbersome and it became apparent that the cursor would have to be raised further to enable the blocks to be removed. Power was applied to the new winch and an operator went to a control position sited above the cursor and diving bell from where he began to raise the cursor. From the control position, the operator was unable to see the top of the diving bell and he was directed by a rigger using hand signals from a visible part of the deck below. Once the cursor was at a suitable height, lifting was stopped, power to the winch was switched off and work on top of the bell set to continue. A few seconds later the winch rendered and the cursor fell, trapping the rigger between the diving bell and the cursor.

Despite his colleagues' best efforts and rapid evacuation to hospital, the rigger died from his injuries.

The cause of the winch failure was attributed to a faulty pilot valve in the cursor's winch control system, which prevented the winch brakes from applying once hydraulic power was removed.

¹ Cursor: An arrangement in the shape of an inverted bowl, which guides the diving bell into the ship from below, whereupon the two mate, enabling the diving bell to become integral with the ship and her movements.

Safety Issues

- The installation team failed to apply the most basic of safety principles while working under the suspended load. Regardless of whether the winch had been commissioned and declared fully functional, the cursor should have been supported by additional means, before anyone went underneath it.
- It is extremely inadvisable to place any confidence in the safe operation of machinery that has not been fully commissioned and which therefore has not been properly tested.
- The design of the hydraulic circuit for the new cursor winch meant that the two brakes fitted to the winch did not operate independently, as they were required to do, since a single, defective, pilot valve was common to both brake circuits.
- At the time of the accident, the design of the winch's hydraulic system had not been approved by the vessel's operators or the classification society tasked with approving the whole system. Had such approval been sought for the hydraulic system it is highly probable that the anomaly in the brake circuit design, as highlighted above, would have been identified. Formal approval of systems and their component elements is an essential safety barrier which should never be circumvented before equipment is used.
- *Wellservicer's* operators had numerous management procedures and safety tools in place to ensure safe working. These were either not applied or were applied ineffectively, to the extent that no-one recognised the risk posed by the suspended cursor. Safety management systems and procedures are useless if their purpose is not understood and applied with diligence by all stakeholders.
- Lines of responsibility between the vessel and shore-based staff became confused. As a result, overall management of the modification project lacked direction and control. Responsibilities should be clearly defined, and understood; it is better to ask too many questions than to carry on with a potentially hazardous task in blind faith that other people are doing what is expected of them.

This accident was subject to MAIB investigation, the report of which can be found on the MAIB's website at:

www.maib.gov.uk

A copy of the flyer and / or the report will be sent, on request, free of charge.

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